CLAIMS

What is claimed is:

1. A refrigeration apparatus generating cooling air, comprising:

an evaporator comprising a coolant tube having at least one bending part, and at least one heat exchange fin with at least one coolant tube accommodating part contacting the coolant tube; and

a defrosting unit adjacent to the evaporator removing frost formed on the evaporator,

the heat exchange fin being inclined by an inclination angle so that a longitudinal direction of the heat exchange fin forms an acute angle relative to a vertical direction, the inclination angle causing water drops defrosted by the defrosting unit to flow downward to a bottom end of the heat exchange fin, and

opposite sides of the heat exchange fin including rounded corner parts.

2. The refrigeration apparatus according to claim 1, wherein the corner part of the heat exchange fin is rounded to have a radius between approximately 5 mm and 20 mm.

3. The refrigeration apparatus according to claim 2, wherein the inclination angle of the heat exchange fin is between approximately 50 degrees and 75 degrees.

4. The refrigeration apparatus according to claim 3, wherein the heat exchange fin includes at least one protrusion protruding orthogonally from a surface of the heat exchange fin.

5. The refrigeration apparatus according to claim 1, wherein the heat exchange fin is inclined toward one side relative to a vertical direction, and the bottom end of each heat exchange fin is adjacent to a wall on which the evaporator is installed.

6. The refrigeration apparatus according to claim 1, further comprising:

at least two coolant tube supporters on opposite sides of the evaporator supporting the coolant tube.

7. The refrigeration apparatus according to claim 1, wherein the heat exchange fin has a substantially rectangular shape, and the at least one coolant tube accommodating part is positioned on a surface of the heat exchange fin in a pair.

8. A refrigerator comprising:

a refrigeration apparatus comprising:

an evaporator having a coolant tube including at least one bending part, and at least one heat exchange fin with at least one coolant tube accommodating part contacting the coolant tube, and

a defrosting unit adjacent to the evaporator and removing frost formed on the evaporator;

a main body including at least one storage compartment supplied with cooling air generated by the refrigeration apparatus; and

at least one door covering an opening of the storage compartment,

wherein the heat exchange fin is inclined by an inclination angle so that a longitudinal direction of the heat exchange fin forms an acute angle relative to a vertical direction, the inclination angle causing water drops defrosted by the defrosting unit to flow downward to a bottom end of the heat exchange fin, and

wherein opposite sides of the heat exchange fin include rounded corner parts.

9. A refrigerator comprising:

a refrigeration apparatus including:

an evaporator having a coolant tube including at least one bending part, and at least one heat exchange fin with at least one coolant tube accommodating part contacting the coolant tube, and

a defrosting unit adjacent to the evaporator and removing frost formed on the evaporator;

a main body formed with at least one storage compartment supplied with cooling air generated by the refrigeration apparatus; and

at least one door covering an opening of the storage compartment,

wherein the heat exchange fin is inclined by an inclination angle so that a longitudinal direction of the heat exchange fin forms an acute angle relative to a vertical direction, the inclination angle causing water drops defrosted by the defrosting unit to flow downward to a bottom end of the heat exchange fin,

wherein opposite sides of the heat exchange fin include rounded corner parts, and

wherein the heat exchange fin includes at least one protrusion protruding orthogonally from a surface of the heat exchange fin.

10. A refrigerator comprising:

a refrigeration apparatus including:

an evaporator having a coolant tube including at least one bending part, and at least one heat exchange fin with at least one coolant tube accommodating part contacting the coolant tube, and

a defrosting unit adjacent to the evaporator and removing frost formed on the evaporator;

a main body including at least one storage compartment supplied with cooling air generated by the refrigeration apparatus; and

at least one door covering an opening of the storage compartment,

wherein the heat exchange fin is inclined by an inclination angle so that a longitudinal direction of the heat exchange fin forms an acute angle relative to a vertical direction, the inclination angle causing water drops defrosted by the defrosting unit to flow downward to a bottom end of the heat exchange fin, and

wherein the heat exchange fin is inclined toward one side relative to a vertical direction, and the bottom end of each heat exchange fin is adjacent to a wall on which the evaporator is installed.

11. The refrigeration apparatus according to claim 1, wherein the inclination angle of the heat exchange fin is between approximately 40 degrees and 50 degrees.

12. The refrigeration apparatus according to claim 1, wherein the inclination angle of the heat exchange fin is set based on a ratio of a length of the heat exchange fin and a distance between a plurality of coolant tubes along a vertical direction.

13. The refrigerator according to claim 10, further comprising:

means for disposing of water in an evaporator accommodating part containing the evaporator.

14. The refrigeration apparatus according to claim 1, wherein the heat exchange fin has a polygonal shape.

15. A method of defrosting an evaporator having at least one heat exchange fin including at least a rounded edge and a sharply edged bottom, the evaporator being attached to an evaporator accommodating part, the method comprising:

forming frost in the evaporator during a refrigeration cycle;

defrosting the evaporator after each refrigeration cycle; and

collecting water formed in the defrosting on the sharply edged bottom of the heat exchange fin,

wherein the water flows along the rounded edge and a downwardly sloped length of the heat exchange fin, and

wherein the water collected on the sharply edged bottom of the heat exchange fin flows down the evaporator accommodating part.

16. The method according to claim 15, further comprising:

disposing of the collected water through a discharge hole.

17. The method according to claim 15, further comprising:

disposing of the collected water with a water accommodating part at a bottom of the evaporator accommodating part.

18. An air conditioner comprising:

a refrigeration apparatus including:

an evaporator having a coolant tube including at least one bending part, and at least one heat exchange fin with at least one coolant tube accommodating part contacting the coolant tube, and

a defrosting unit adjacent to the evaporator and removing frost formed on the evaporator,

wherein the heat exchange fin is inclined by an inclination angle so that a longitudinal direction of the heat exchange fin forms an acute angle relative to a vertical direction, the inclination angle causing water drops defrosted by the defrosting unit to flow downward to a bottom end of the heat exchange fin, and

wherein opposite sides of the heat exchange fin include rounded corner parts.

19. The refrigeration apparatus according to claim 1, wherein the corner part of the heat exchange fin is rounded to have a radius between approximately 3 mm and 5 mm.

20. The refrigeration apparatus according to claim 1, wherein the corner part of the heat exchange fin is rounded to have a radius above 50 mm.

21. The refrigeration apparatus according to claim 1, wherein the heat exchange fin includes at least one sharply-edged corner.